

=> d his

(FILE 'HOME' ENTERED AT 13:08:37 ON 27 FEB 2003)

FILE 'INPADOC' ENTERED AT 13:08:52 ON 27 FEB 2003

L1 1 S WO9519108/PN

FILE 'EUROPATFULL, PCTFULL, USPAT2, WPIDS' ENTERED AT 13:30:31 ON 27 FEB 2003

L2 1651 S CYCLODEXTRIN#(S)OIL#

L3 156 S L2(S) (SKIN OR HAIR OR TOPICAL OR DERM?)

FILE 'USPATFULL' ENTERED AT 13:36:37 ON 27 FEB 2003

L4 92 S L3

L5 16 S L4 NOT PY>=1999

L6 4 S L4/CLM

BEST AVAILABLE COPY

L5 ANSWER 2 OF 16 USPATFULL

ACCESSION NUMBER: 1998:138878 USPATFULL

TITLE: Process for preparing decolorized carotenoid-cyclodextrin complexes

INVENTOR(S): Sikorski, Christopher, 1805 Davis St., Whiting, IN, United States 46394
Schwartz, Joel L., 5225 Pooks Hill, Promenade Apt. 315 South, Bethesda, MD, United States 20814
Shklar, Gerald, 7 Chauncy La., Cambridge, MA, United States 02138

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5834445		19981110
APPLICATION INFO.:	US 1995-552374		19951103 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1994-339018, filed on 14 Nov 1994, now abandoned which is a continuation-in-part of Ser. No. US 1992-947067, filed on 18 Sep 1992, now abandoned which is a continuation of Ser. No. US 1991-741203, filed on 30 Jul 1991, now abandoned which is a continuation of Ser. No. US 1990-469171, filed on 24 Jan 1990, now abandoned And a continuation-in-part of Ser. No. US 1989-392857, filed on 11 Aug 1989, now abandoned , said Ser. No. US 1992-947067, filed on 18 Sep 1992, now abandoned which is a continuation-in-part of Ser. No. US 1992-860201, filed on 26 Mar 1992, now abandoned which is a continuation of Ser. No. US 1991-708130, filed on 29 May 1991, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Henley, III, Raymond		
LEGAL REPRESENTATIVE:	Trask, Britt & Rossa		
NUMBER OF CLAIMS:	18		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1150		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD . . . to 50 milligrams of vitamin E (as DL-alpha tocopherol acid succinate). To this mixture were added 50 milligrams of .beta. cyclodextrin and 50 milligrams of gelatin derived from bovine skin (bloom 225, type III). The color of the mixture was dark brown-red, the texture was coarse and sandy. Next, 1. . . the

texture of the mixture to a somewhat watery-creamy texture, but the color remained unchanged. The composition so prepared felt oily on the skin and contained small but visible particles of Vitamin E, and .beta. carotene particles suspended in solution.

DETD Fifty milligrams of .beta. carotene were added to 100 milligrams of .beta. cyclodextrin and 1 milliliter of d-H.sub.2 O. The .beta. carotene was in a suspension, the color of the mixture was

light. . . color and did not change the texture. Some suspended particles of Vitamin E were observed. One milliliter of light mineral oil further increased the solubilization of both the .beta. carotene and

the vitamin E. The color of the composition was yellow-tan. . . watery. Glycerine (1 milliliter) and/or gelatin (50 mg) were added to the mixture, followed by 1 milliliter of LUBRIDERM brand skin

BEST AVAILABLE COPY

cream. (LUBRIDERM has the following ingredients in order of amount: water, mineral oil, petrolatum, sorbitol, lanolin, lanolin alcohol, triethanolamine, cetyl alcohol, butylparaben, methylparaben, propylparaben, sodium chloride.) The result was a cream with a . . .

DETD . . . examples it is readily seen that it is highly preferable to solubilize the .beta. carotene by combining it with the **cyclodextrin**, prior to mixing with the other ingredients such as glycerine, mineral oil, or **skin** cream base. It is further preferable to solubilize the vitamin E succinate prior to mixing with other ingredients.

DETD TABLE V

Comparative solubility in **skin** cream of .beta. carotene with different solubilization mixtures

Solvent #1					
Solvent #2 .beta.CD.sup.1					
Gelatin Mineral Oil					
Glycerin					
H.sub.2 O					
H.sub.2 O	7-8	2	3	3	1
H.sub.2 O + DMSO.sup.2	8	3	4	4	2
H.sub.2 O + DMSO. . . carotene was mixed with Solvent #1 prior to mixing with					
Solvent #2. This mixture was in turn combined with LUBRIDERM skin cream,					
and the results scored.					
1 = .beta. cyclodextrin					
2 = Dimethylsulfoxide					
3 = 1,2 Dimethoxyethane					

BEST AVAILABLE COPY

=> s wo9519108/pn
L1 1 WO9519108/PN

=> d fam l1

L1 ANSWER 1 OF 1 INPADOC COPYRIGHT 2003 EPO

PATENT FAMILY INFORMATION
AN 40905863 INPADOC

+-----PRAI-----+		+-----AI-----+	
US 1991-805724	B2 19911205	US 1993-40052	A 19930330
US 1993-40052	A 19930330	US 1993-40052	A 19930330
		WO 1994-US401	A 19940112
US 1993-40052	A2 19930330	US 1994-212856	A 19940315
US 1993-76276	A 19930702	WO 1994-US401	A 19940112
US 1993-76276	A2 19930702	US 1994-212856	A 19940315
US 1993-805724	A 19930917	WO 1994-US401	A 19940112
US 1993-805724	B2 19930917	US 1994-212856	A 19940315
US 1994-212856	A 19940315	US 1994-212856	A 19940315
		WO 1994-US401	A 19940112
WO 1994-US401	A 19940112	WO 1994-US401	A 19940112
WO 1994-US401	W 19940112	EP 1994-906601	A 19940112
		JP 1994-518992	A 19940112
		US 1994-212856	A 19940315

+-----AI-----+		+-----PI-----+	
EP 1994-906601	A 19940112	EP 785715	A1 19970730
		EP 785715	A4 19970730
JP 1994-518992	A 19940112	JP 09511231	T2 19971111
US 1993-40052	A 19930330	US 5296472	A 19940322
US 1994-212856	A 19940315	US 5380711	A 19950110
WO 1994-US401	A 19940112	WO 9519108	A1 19950720

10 priorities, 5 applications, 6 publications

BEST AVAILABLE COPY